

UNIQUE PROCESS CHEMISTRY FOR ETCHING  
ORGANIC LOW-K MATERIALS

Abstract of the Disclosure

Method for etching a feature in an integrated circuit wafer with minimized effect of  
5 micromasking. The method introduces a flow of etchant gas including a fluorocarbon gas to  
the wafer, and uses the etchant gas to form a plasma in proximity with at least a portion of the  
wafer. The plasma is used to etch at least a portion of the feature in the wafer. Disassociation  
of the fluorocarbon into fluorine and hydrocarbon species performs two functions. The  
fluorine species prevents or significantly reduces sputtered hardmask components from  
10 depositing on the floor of the etched feature during etching. The hydrocarbon species acts to  
form a passivation layer on the sidewalls of the feature.